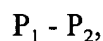1.   (Currently Amended) A method of reducing the damage done by reactive oxygen species (ROS) in an animal comprising administering to the animal an effective amount of a peptide having the formula:

$$P_1 - P_2,$$

wherein:

P$_1$ is:

Xaa$_1$ Xaa$_2$ His: or

Xaa$_1$ Xaa$_2$ His Xaa$_3$;

P$_2$ is (Xaa$_4$)$_n$;

Xaa$_1$ is the N-terminal amino acid of the peptide and is glycine, alanine, valine, leucine, isoleucine, serine, threonine, aspartic acid, asparagine, glutamic acid, glutamine, lysine, hydroxylysine, histidine, arginine, ornithine, phenylalanine, tyrosine, tryptophan, cysteine, methionine, or α-hydroxymethylserine;

Xaa$_2$ is glycine, alanine, β-alanine, valine, leucine, isoleucine, serine, threonine, aspartic acid, asparagine, glutamic acid, glutamine, lysine, hydroxylysine, histidine, arginine, ornithine, phenylalanine, tyrosine, tryptophan, cysteine, methionine, or α-hydroxymethylserine;

Xaa$_3$ is glycine, alanine, valine, lysine, arginine, ornithine, aspartic acid, glutamic acid, asparagine, glutamine or tryptophan;

Xaa$_4$ is any amino acid; and

n is 0-100;

or a physiologically-acceptable salt thereof.

2. (original) The method of Claim 1 wherein Xaa$_1$ is aspartic acid, glutamic acid, arginine, or α-hydroxymethylserine.

3. (original) The method of Claim 1 wherein Xaa$_2$ is glycine, alanine, valine, leucine, isoleucine, threonine, serine, asparagine, methionine, histidine or α-hydroxymethylserine.

4. (original) The method of Claim 1 wherein Xaa$_3$ is lysine.

5. (original) The method of Claim 1 wherein Xaa_1 is aspartic acid, glutamic acid, arginine, or α-hydroxymethylserine, Xaa_2 is glycine, alanine, valine, leucine, isoleucine, threonine, serine, asparagine, methionine, histidine or α-hydroxymethylserine, and Xaa_3 is lysine.

6. (original) The method of Claim 5 wherein Xaa_1 is aspartic acid or glutamic acid and Xaa_2 is alanine, glycine, valine, threonine, serine, or α-hydroxymethylserine.

7. (original) The method of Claim 6 wherein Xaa_2 is alanine, threonine or α-hydroxymethylserine.

8. (original) The method of Claim 7 wherein Xaa_1 is aspartic acid and Xaa_2 is alanine.

9. (original) The method of Claim 1 wherein n is 0-10.

10. (original) The method of Claims 9 wherein n is 0-5.

11. (original) The method of Claim 10 wherein n is 0.

12. (original) The method of Claim 1 wherein P_2 comprises a metal-binding sequence.

13. (original) The method of Claim 12 wherein P_2 comprises one of the following sequences: $(Xaa_4)_m \, Xaa_3 \, His \, Xaa_2 \, Xaa_5,$

$(Xaa_4)_m \, His \, Xaa_2 \, Xaa_5,$

$(Xaa_4)_m \, Xaa_5 \, Xaa_2 \, His \, Xaa_3,$ or

$(Xaa_4)_m \, Xaa_5 \, Xaa_2 \, His,$

wherein Xaa_5 is an amino acid having a free side-chain $-NH_2$ and m is 0-5.

14. (original) The method of Claim 13 wherein Xaa_5 is Orn or Lys.

15. (original) The method of Claim 1 wherein at least one of the amino acids of P_1 other than β-alanine is a D-amino acid.

16. (original) The method of Claim 15 wherein Xaa_1 is a D-amino acid, His is a D-amino acid, or both Xaa_1 and His are D-amino acids..

17 (original) The method of Claim 16 wherein all of the amino acids of P_1 other than β-alanine are D-amino acids.

18. (original) The method of Claim 15 wherein at least 50% of the amino acids of P_2 are D-amino acids.

19. (original) The method of Claim 16 wherein at least 50% of the amino acids of P_2 are D-amino acids.

20. (original) The method of Claim 17 wherein at least 50% of the amino acids of P_2 are D-amino acids.

21. (previously amended) The method of Claim 1 wherein the animal is in need of the peptide because of the need to reperfuse an ischemic tissue or organ of the animal.

22. (original) The method of Claim 21 wherein the animal is suffering from cerebrovascular ischemia and the ischemic tissue is located in the brain of the animal.

23. (original) The method of Claim 21 wherein the animal is suffering from cardiovascular ischemia and the ischemic tissue is located in the heart of the animal.

24. (original) The method of Claim 21 wherein the peptide is administered prior to reperfusion, simultaneously with reperfusion, after reperfusion, or combinations thereof.

25. (previously amended) The method of Claim 1 wherein the animal is in need of the peptide because of neurological trauma.

26. (previously amended) The method of Claim 1 wherein the animal is in need of the peptide because it is suffering from a neurodegenerative disease.

27. (previously amended) The method of Claim 1 wherein the peptide is administered prophylactically.

28. (original) The method of Claim 27 wherein the peptide is administered to an animal exhibiting symptoms of possible cerebrovascular ischemia or possible cardiovascular ischemia while the animal is being diagnosed.

29. (original) The method of Claim 27 wherein the peptide is administered to an animal prior to surgery, during surgery, after surgery, or combinations thereof.

30. (original) The method of Claim 29 wherein the surgery is open-heart surgery or surgery to transplant an organ into the animal.

31. (original) The method of Claim 27 wherein the peptide is administered to an animal prior to radiation therapy, during radiation therapy, after radiation therapy, or combinations thereof.

Claims 32-58 (canceled)

Claims 59-374 (previously canceled)